

AMENDMENT

Please amend the application as follows:

In the claims:

B¹ 1. (Currently amended) A ~~substantially solid biomolecular solder comprising biomolecules which are denatured so that in use, the solubility is reduced~~ having a predetermined shape and comprising a proteinaceous substance that has been at least partially denatured while moist following shaping to obtain the predetermined shape, such that the proteinaceous substance bonds together and the shape of the solder is thereby essentially maintained and solubility of the proteinaceous substance is reduced in physiological fluid at body temperature.

2. (Currently amended) A solder according to claim 1 wherein the ~~biomolecule~~ proteinaceous substance comprises is a protein or an analogue thereof.

B² 3. (Currently amended) A solder according to claim 2 wherein the protein is any one of an albumin, an elastin, ~~a collagen~~, a fibrinogen, or any combination thereof.

4. (Previously amended) A solder according to claim 1, further comprising a dye for improving energy deposition into the solder when the solder is exposed to energy.

5. A solder according to claim 4 wherein the dye is indocyanine green, methylene blue or fluorescent isothiocyanate.

6. (Previously amended) A solder according to claim 1, further comprising an adjuvant for promoting rapid or more complete tissue healing.

B³ 7. (Currently amended) A solder according to claim 6 wherein the adjuvant is selected from the group consisting of a growth factor, a sodium hyaluronate, a hormone ~~or~~ and an anti-coagulant.

8. (Previously amended) A solder according to claim 1 further comprising a material for improving the strength of the solder.
9. A solder according to claim 8 wherein the material is a polytetrafluoroethylene fibre or a ceramic fibre.
10. (Previously amended) A kit comprising a solder according to any one of claims 1 to 9.
11. (Currently amended) A method of preparing a biomolecular solder, the method comprising the following steps:
 - (a) forming a ~~substantially solid composition~~ solder composition comprising ~~biomolecules~~ a proteinaceous substance and a solvent;
 - (b) ~~denaturing the biomolecules in the compositions~~ shaping the solder into a predetermined shape; and
 - (c) ~~drying the composition to form a solder; wherein in step (b), the biomolecules are denatured so that, in use, the solubility of the solder is reduced~~ at least partially denaturing the proteinaceous substance while the solder is moist such that the proteinaceous substance bonds together and the predetermined shape of the solder is thereby essentially maintained and the solubility of the proteinaceous substance is reduced in physiological fluid at body temperature.
12. (Currently amended) A method according to claim 11 wherein ~~in step (b) the biomolecules the proteinaceous substance is~~ are denatured by exposing the ~~solder composition~~ to energy for a time period ~~which~~ that is sufficient to allow the energy to at least partially denature the ~~biomolecules~~ proteinaceous substance.
13. A method according to claim 12 wherein the energy is thermal energy.

B⁶ 14. (Currently amended) A method according to claim ~~13~~ 11 wherein the biomolecules proteinaceous substance ~~is~~ are denatured by heating the solder composition at a temperature of greater than 40°C for a time period of about 30 seconds or longer.

B⁷ 15. (Currently amended) A method according to claim 14 or 32 wherein the solder composition is heated in a hot liquid bath or in ~~pressurised~~ pressurized steam.

B⁸ 16. (Currently amended) A method according to claim 11 wherein ~~in step (b)~~, the biomolecules proteinaceous substance ~~is~~ are denatured by exposing the composition solder to a compound denaturing agent for a time period ~~which~~ that is sufficient to allow the compound denaturing agent to denature the biomolecules proteinaceous substance.

~~17.~~ (Cancelled)

~~18.~~ (Cancelled)

B⁹ 19. (Currently amended) A method according to claim 11 wherein ~~in step (a)~~, a dye for improving energy deposition into the solder is added to the substantially solid solder composition in step (a).

B¹⁰ 20. (Currently amended) A method according to claim 19 wherein the dye is added to the solder composition in an amount between 0.1 to 2.5% w/w of the solder.

21. (Currently amended) A method according to claim 20 wherein the dye is mixed with the solvent, prior to mixing the solvent with the biomolecules proteinaceous substance.

B¹¹ 22. (Currently amended) A method according to claim 11 wherein ~~in step (c)~~, the composition to form the solder ~~is dried to remove all the solvent from the solder~~ a majority of the solvent is removed from the solder during the drying of the solder.

~~23.~~ (Cancelled)

B12 24. (Currently amended) A method according to claim 23 11 wherein the solder composition is applied to a support structure before the biomolecules in the composition are proteinaceous substance is denatured in step (b).

B13 25. (Currently amended) A method according to claim 24 wherein the support structure is a mesh, a stiffener or a graft material.

B14 26. (Currently amended) A method according to claim 11 further comprising the step of sterilizing the solder following the denaturing of the proteinaceous substance.

27. (Currently amended) A method of repairing a biological tissue welding biological tissue together to effect a repair, the method comprising the following steps:

B15 (a) applying a solder according to claim 1 to the site of a tissue to be repaired biological tissue to be welded together; and

(b) exposing the solder to energy for a time sufficient to allow cause the solder to bond to weld the biological tissue together to be repaired.

28. A method according to claim 27 wherein the solder is moistened before application to the biological tissue.

29. (New) A solder according to claim 1 wherein the proteinaceous substance is essentially insoluble in the physiological fluid at body temperature.

B16 30. (New) A solder according to claim 1 wherein the solder has been shaped from a composition comprising the proteinaceous substance in an amount of at least 40% w/w of the composition.

31. (New) A solder according to claim 1 wherein the proteinaceous substance comprises at least one substance selected from the group consisting of a protein, a polypeptide, and analogues thereof.

32. (New) A method according to claim 11 further comprising drying the solder following the denaturation of the proteinaceous substance.
33. (New) A method according to claim 11 wherein the solder, shaped into the predetermined shape, comprises the proteinaceous substance in an amount of at least 40% w/w or greater of the solder.
34. (New) A method according to claim 11, wherein the solder comprises a proteinaceous substance in an amount in the range from 50% w/w to 80% w/w of the solder.
35. (New) A method according to claim 33 or 34 wherein the solder comprises a solvent in an amount up to 60% w/w/ of the solder.
36. (New) A method according to claim 14 wherein the solder is heated at a temperature in a range from 75°C to 100°C.
37. (New) A method according to claim 36 wherein the solder is heated at a temperature in a range from 100°C to 150°C.
38. (New) A method according to claim 16 wherein the denaturing agent comprises a chemical.
39. (New) A method according to any one of claims 11, 32, or 33 wherein the proteinaceous substance comprises at least one substance selected from the group consisting of a protein, a polypeptide, and analogues thereof.
40. (New) A method according to claim 39 wherein the proteinaceous substance comprises at least one substance selected from the group consisting of a protein and a polypeptide.
41. (New) A method according to claim 40 wherein the proteinaceous substance comprises at least one protein selected from the group consisting of an albumin, an elastin, and a fibrogen.

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- 31b 42. (New) A method according to claim 28 wherein the moistening of the solder increases flexibility of the solder.
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